CHAPTER 5. FREQUENCY COORDINATION

500. GENERAL.

a. Any frequency assignment MUST be coordinated before it can be processed and authorized. The very nature of radio signal radiation makes it a candidate for interference to another frequency, thus all interested parties must be in agreement before a reliable frequency can be assured. There are five major areas of coordination within the FAA spectrum management function. They are headquarters, field-headquarters, field-external, field-special and field-internal. Each has its own requirements and peculiarities, thus requires separate explanation.

b. As a general policy, only one frequency will be assigned for each individual requirement. For example, only one VHF A/G communications (COMM) frequency will be assigned for each Air Route Traffic Control Center (ARTCC) sector. Frequencies designated as "back-up" or "spare" are not authorized.

501. HEADQUARTERS. All coordination with other Federal agencies, except as discussed in paragraphs 503 through 505, and any with foreign governments, is accomplished only by ASR. This involves IRAC, FAS, AAG and MAG. Contact with the Washington headquarters of any of the aviation-related groups such as Aircraft Owners and Pilots Association (AOPA), Air Transport Association of America (ATA), etc., will be done only by ASR. Also included is the east coast National Radio Quiet Zone (NRQZ), which requires coordination with the Navy and the National Science Foundation (NSF). See NTIA Manual of Regulations and Procedures for Federal Radio Frequency Management. This document will be referred to hereafter as the NTIA Manual.

502. FIELD-HEADQUARTERS. For new programs and systems, ASR engineers perform the initial planning, engineering and frequency applications. All routine aeronautical COMM, NAV and radar frequencies are engineered in the field and then coordinated with ASR prior to being forwarded to FAS, IRAC or the FCC for approval. These are handled in the standard computer-inputted application, after showing that all local and interregion coordination has been done. In addition, other frequencies engineered in the region must be coordinated with ASR before the application is forwarded to FAS, IRAC or the FCC, as appropriate.

503. FIELD-EXTERNAL. In general, the FMO is urged to form a close working relationship with the field representatives of agencies with whom the FMO will work. A partial list of such agencies and the FMO's responsibilities are as follows:

a. Interregional Work Force Support. Regions can better adjust to peak workload conditions by establishing a seamless environment so that regions can provide to each other to accomplish functions as peaks occur. This interregional support would be provided at the request of the regions needing the support. Funding for this support may, in some cases, be provided by headquarters.

b. FCC Field Office. The FMO should become well acquainted with the Engineer in Charge of any FCC Field Office(s) in the FMO's region. Interference dealing with a non-Federal transmitter will be coordinated with the local FCC. The FCC should deal with the FAA only

through the FMO in the region, except for joint FCC/FAA flights which are handled by FS.

c. DOD AFC. DOD has established AFC's within designated areas of the United States and possessions. These AFC's represent DOD in their respective areas and have coordination authority over all the military services in their areas. If any DOD AFC has area encompassing any of an FMO's region, it is imperative that the FMO become well acquainted with the AFC, since all military frequency coordination with FAA within the AFC's area of responsibility will be with the DOD AFC. See NTIA Manual, Chapter 8 and Annex D, for areas of responsibility, contacts, and telephone numbers.

d. Military AFC's. The three main military departments, Army, Navy and Air Force, have their own service coordinators. Each service has a specific area of influence and each area is spelled out in the NTIA Manual, Annex D. Just as with the DOD AFC's, it is important that the FMO become acquainted with these officials whose control areas are within the various regions.

e. United States Forest Service (USFS) and Bureau of Land Management (BLM). The person who has frequency coordination responsibility in USFS and the BLM in each region is one each FMO should know. In those regions where forest fires are a problem, requests will be coming in at odd times for VHF COMM frequencies to use for the duration of a fire for communication with water-drop aircraft. Knowing the contact in advance is a great time saver.

f. Search and Rescue (SAR) Groups. There are a large number of SAR groups in the country. Most are state or municipal governments, but a few are citizens' groups who are interested in volunteering in searches for lost or downed aircraft. They are the ones who will request temporary frequency authorizations for Emergency Locator Transmitter (ELT) tests.

g. Local Aviation Groups. Local aviation groups are a source of information and frequently come to the FMO for assistance with new frequency requirements. For instance, an airport owner wanting a new Aeronautical Advisory Station (Unicom) frequency will come to the FMO. In addition, these groups have a lot of general information which can benefit the FMO. Included in this category are AOPA, ATA, Civil Air Patrol (CAP) and similar organizations.

h. Other Federal Agencies. It is to the advantage of the FMO to be involved with other Federal agencies in the region who use the radio spectrum. Some want FAA communications frequencies coordinated, which they use in connection with their activities in combatting narcotics smuggling. Others use the 162-174 MHz band and are "neighbors" in the spectrum. Whatever their use or needs, a good working relationship with such agencies is to the benefit of all. When another Federal agency causes interference to FAA frequencies, contact with the local agency's technical personnel will bring much faster resolution to the problem than going through Washington and between agencies at that level. If there is currently no "Federal frequency coordinating group" in the FMO's region, the FMO should seriously consider initiating one.

504. FIELD-SPECIAL. The FMO will receive special requests not covered by the normal processes. In that case, the FMO must take particular care in fulfilling them and should consider all parameters before acting or referring to headquarters. When action is taken, ASR shall be notified promptly if the FMO has taken or is contemplating taking action. Some of these actions are:

a. ELT Tests. Various SAR groups wish to train their pilots at periodic intervals. To do so, they use an ELT, hidden by one of their group in some relatively remote area to test how long it takes for the pilots to locate it from the air, using whatever direction-finding equipment or techniques they have at their disposal. Refer to subparagraphs (1) and (2) below for the procedure on how to accommodate these requests.

(1) The ELT test frequency is 121.775 MHz, as specified in Advisory Circular 91-44. Training SHALL NOT be conducted on 121.5 MHz or 243.0 MHz.

(2) When a group wishes to conduct ELT training, they shall contact the FMO and provide the following information:

(a) Date and time of the test.

(b) Site coordinates.

(c) Organization name and the name of a responsible person in the organization.

(d) A telephone number will be attended during the entire ELT test so that in the event of emergency or unacceptable interference, the test can be terminated quickly.

b. Forest Firefighting Frequencies. USFS and BLM have interagency agreements with FAA for temporary use of A/G COMM frequencies to communicate with water-dropping aircraft during a forest fire. Some states also have firefighting aircraft and may contact FAA. The detailed procedure is left to the individual FMO, but it must be a SIMPLE arrangement. It is not uncommon for the firefighting agency to call the FAA duty officer Sunday midnight (or other inconvenient hours) requesting FAA permission to use a VHF COMM frequency. In addition, it is FAA's responsibility to publish the firefighting director's contact frequency in the NOTAM which establishes the temporary flight restrictions (TFR) for firefighting operations. This is to allow media aircraft access to the area to collect news information.

(1) The fire services have proved beyond a doubt that the first 15 minutes of a fire determines whether it can be controlled promptly. The FMO should have a list of available frequencies at ready access, which means that the FMO and staff engineers will have them at home, too. The requesting agency should be advised at the time of authorization to call the FMO or the duty officer as soon as the frequency is no longer needed.

(2) The FMO will notify ASR by phone of any frequency use authorized at the earliest opportunity.

c. Fly-ins. Various groups request AT to provide a temporary control tower for special events and to enhance air safety, usually one to three days' time. To do that, AT must be provided with frequencies for the "tempo" tower or other requirements. On occasion, this might be a UHF, if military aircraft are involved. Mostly, however, the request from AT will ask for a

local control and a ground control frequency. The frequency 123.1 MHz may be used for a tempo control tower when coordinated with SAR, if air safety considerations are met.

(1) Initial contact between the aviation event sponsor and the FAA is normally with either the Flight Standards District Office (FSDO) or Air Traffic Control Operations Office (ATCOO) at least 45 days prior to the event. If temporary use of frequencies for control of the event's air traffic is needed, or if the assigned frequencies at the airshow's location will be used differently than presently authorized, the ATCOO or Flight Standards Field Office, (FSFO) as appropriate, will contact the Regional FMO for advice, or the sponsor may contact the regional FMO directly.

(2) The aviation event sponsor may have proposed frequencies desired for use, for example, either FCC-controlled frequencies in the 122.8-123.0 MHz band for non-FAA use (UNICOM), (MULTICOM) or specific FAA air traffic control frequencies. The FMO will advise the aviation event sponsor whether the proposed frequencies are acceptable and whether the frequencies being proposed are too congested to allow proper control of the aviation event. If the sponsor has no recommended frequencies or has chosen frequencies which are not acceptable to the FAA, then the FMO will advise the FSFO with a Regional coordination number [for an example, see subparagraph (3)] and temporary frequencies, as needed.

(3) A coordination number (for example, TGL 930010) will be provided to the event sponsor for each frequency which is coordinated for the event use. The FMO will enter the temporary frequencies into the automated frequency management system to document their use.

(4) The FMO will forward a memorandum to the aviation event sponsor noting the coordination and frequencies to be proposed to the FCC for use. A courtesy copy of this document will be provided to ASR. An example of such a memorandum is shown in Figure 5-1.

(5) After coordination with the FAA Regional FMO, the sponsor will be expected to submit all required forms and fees to the FCC for a special temporary authority (STA) for use of the coordinated frequencies as required by the FCC rules. The sponsor may do this either by letter, telegram, fax or e-mail.

(6) Upon receipt of the memorandum from the Region, HQ FAA/ASR will telephonically coordinate with the FCC and, in addition, will forward (or fax) a memorandum to the FCC Licensing Division, Gettysburg, Pennsylvania, noting the FAA Regional coordination number and stating that FAA has no objections to the temporary use of the frequencies for the aviation event.

(7) In most cases, the FCC will issue the STA to the sponsor no later than 15 days prior to the event provided that all required forms and fees are received at their office within 30 days of the event.

(8) After the aviation event is over, the Regional FMO will purge the temporary frequency authorization from the automated frequency management system.

FIGURE 5-1. SAMPLE MEMORANDUM TO AVIATION EVENT SPONSOR

Subject: Coordination of Frequencies for Special Aeronautical Events

From: Regional Frequency Management Office

To: Aviation Special Event Sponsor

As coordinated on (date), this office has no objections to your use of the following frequency for use at (name) airshow. The following applies:

Frequency Coordinated:

Power/Emission:

Description of Antenna:

Location of Transmitter (include geographical coordinates):

Class of Station:

Dates/Times to be Used:

FAA Regional Coordination Number:

In order to obtain Special Temporary Authority to use this frequency, you must submit all required forms and fees (including FCC Form 155 and Anti-Drug Abuse Act certification, as appropriate) to the Federal Communications Commission (FCC) in order for them to review your application. Please cite the above FAA Regional Coordination Number on your application documents to expedite FCC processing.

Please contact (name) at FAA (Region) Frequency Management Office, (telephone), if you have further questions.

(Signature)

cc: AXX-530; Regional Non-Fed Coordinator; HQ FAA/ASR

d. Non-Federal Requirements.

(1) FCC licenses all non-Federal NAVAID and air-to-ground (A/G) COMM facilities. The owner or sponsor of the facility must obtain airspace and frequency approval by FAA while processing the application for a transmitting license through FCC. The following is the order of priority for assigning frequencies to non-Federal facilities after airspace approval has been granted.

(a) Public use airport tower or NAVAID providing Instrument Flight Rules (IFR) service.

(b) Private use airport tower or NAVAID providing IFR service.

(c) Public or private use Visual Flight Rules (VFR) or en route advisory service.

(2) FAA must advise sponsors in subparagraph (c) above that frequency assignments can be taken away from the facility with a one year notice to satisfy a more critical requirement. The sponsor must also be advised that, if frequency changes are required to assign a channel to the facility, the sponsor must reimburse FAA for the cost of the changes.

(3) Non-Federal NAVAID's must be in the NAS. If it is to be private, the applicant shall be advised that a proposed frequency will be engineered if possible. However, since it is not in the NAS, it is subject to withdrawal for a NAS facility, if the frequency is required at a later date. Lastly, the applicant must be advised in writing that if a frequency is engineered, it will be reserved for only one year. After that, it will be withdrawn if not used. Extensions can be given only upon a showing of definite progress in procuring FCC license and equipment delivery. FS has to concur with the request. If the NAVAID is a Compass Locator (COMLO), the power limit is 25 watts (W). If a VOR or ILS, the power and service volume will be of terminal class.

(4) If a COMM frequency, it also is reserved for only one year. The power limit shall be 10 W.

(5) Equipment shall be FCC type-approved and the applicant shall be so advised.

(6) Licenses for Non-Federal radionavigation aids.

(a) Proponent actions:

1. The proponent fills out an FAA Form 7460-1 and submits it to the appropriate Regional Non-Fed Coordinator.

2. At the same time, the proponent submits an FCC Form 406 (Application for License) to the FCC Licensing Division at Gettysburg, Pennsylvania.

(b) Regional actions:

1. Upon receipt of the FAA Form 7460-1 from the proponent, the FAA Regional Non-Fed Coordinator will forward the request to the Regional Air Traffic Division.

2. The Regional Air Traffic Division will initiate an airspace case (as needed) and register the proponent with the National Flight Data Center (ATA-100).

3. The Regional Air Traffic Division returns the FAA Form 7460-1 to the Regional Non-Fed Coordinator who then submits the form to the regional FMO.

4. The Regional FMO engineers the appropriate frequency, prepares a temporary frequency application and forwards it to FAA Headquarters/ASR-100. At the same time, the FMO also extracts the applicable information from the FAA Form 7460-1 to prepare a memorandum to the FCC indicating the status of the proponent's request.

(c) FCC actions:

1. The FCC Licensing Division receives the FCC memorandum, logs it for tracking purposes and forwards it to FCC Headquarters.

2. FCC Headquarters processes the memorandum and forwards it to FAA Headquarters.

(d) FAA Headquarters actions;

1. FAA engineers and selects a frequency to satisfy the requirement (based on the temporary frequency assigned by the Regional FMO) and forwards the application to NTIA for approval.

2. FAA electronically forwards a copy of the FCC memorandum, with the coordinated frequency, to FCC Headquarters.

3. When the frequency application is approved by NTIA, the FCC Licensing Division issues the license to the proponent.

e. Electronic Countermeasures (ECM) Missions. ECM missions are military exercises whereby electromagnetic signals are radiated intentionally to cause interference to other military units being tested for ECM defense. See chapter 18 for a detailed discussion.

f. Unusual Request. Unusual requests will be received from time to time, and there is no way to cover them all here. When not covered by specific instructions herein or by headquarters directive, all requests for unusual needs should be telephoned or faxed to ASR.

505. FIELD-INTERNAL. All of the foregoing paragraphs in this chapter have dealt mostly with coordination outside the regional office. But coordination within the regional office is as essential as outside. The style of frequency coordination will vary with regions because of the various configurations of the spectrum management functions. At least the following shall be included:

a. AT. Except for a few land mobile system needs, all frequencies engineered are to meet an AT need. Thus the FMO must coordinate closely with AT personnel. This is not only to meet the current need, but to be aware of AT's thinking and planning so that efficient planning may be done for future spectrum use.

b. FS. The same logic applies here, particularly as it relates to NAVAID's. But if FS needs to change a route or vector, an Expanded Service Volume (ESV) or even a new NAVAID may be required. Frequent meetings with FS personnel are recommended.

c. Facilities and Establishment group (F & E). All new requirements for FAA COMM, NAVAID, and radar facilities will come from F & E. Attendance at program review meetings by the FMO is essential to provide as much advanced notice of new facilities and programs as possible to permit advanced planning.

d. System Maintenance Office (SMO). Interference problems will most likely be first reported by SMO field personnel. Problems of other than FAA facilities being built in proximity will probably also be first noted there. On the firing line as they are, SMO personnel are an excellent source of information early on. Frequent meetings or telephone discussions with SMO Managers and key SMO personnel are essential for current operations information. In concert with the SMO Manager, a SMO frequency coordinator should be arranged for each SMO.

e. Adjacent Regions. FMO's should coordinate frequently with their counterparts in adjacent regions. This is particularly important when a planned facility's interference range infringes upon an adjacent region's territory. When a frequency request is filed with ASR, it is assumed that the FMO has coordinated with any adjacent FMO affected.

506. DOCUMENTS. The FMO is required to have many sources of documentation in order to effectively coordinate. At least the orders and documents listed in subparagraphs a.- u. below, as applicable, shall be maintained by the FMO.

a. NTIA Manual Of Regulations and Procedures For Federal Radio Frequency Management.

b. FCC Rules and Regulations.

c. ICAO Annex 10.

d. NTIA/IRAC CD-ROM Frequency List.

e. FCC Aeronautical Frequency List.

f. The Daily National Automated Performance Reporting System (NAPRS).

g. Aeronautical Information Manual.

h. ITU Radio Regulations.

i. Military Joint ECM Regulation, CJCSI, Performing Electronic Warfare in the United States and Canada.

j. The latest edition of Order 7610.4, Special Military Operations.

k. The latest edition of Order 7400.2, Procedures for Handling Airspace Matters.

m. Federal Aviation Act of 1958, revised April 1981.

n. The latest edition of the Federal Aviation Regulations, Part 77.

o. The latest edition of Order 7350.6, Locations Identifier Handbook.

p. The latest edition of Order 1380.40, Airway Facilities SMO Level Staffing Standard System.

q. Sectional Aeronautical Charts.

r. VFR Terminal Area Charts.

s. Airport Facility Directory.

t. U. S. Terminal Procedures.

u. DOD Flight Information publications.

507. thru 599. RESERVED.